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07/990,985 12/16/92 KLETSCHKA

H 3638
EXAMINER
MCANDREWS JR, R

ART UNIT PAPER NUMBER

4

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34M1/0927

3403

DATE MAILED:

09/27/93

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- ☒ Notice of References Cited by Examiner, PTO-892. (2 sheets)
- ☒ Notice of Draftsman's Patent Drawing Review, PTO-948.
- ☐ Notice of Art Cited by Applicant, PTO-1449.
- ☐ Notice of Informal Patent Application, PTO-152.
- ☐ Information on How to Effect Drawing Changes, PTO-1474.
- ☐ _____

Part II SUMMARY OF ACTION

- ☒ Claims 1-39 are pending in the application.
Of the above, claims _____ are withdrawn from consideration.
- ☐ Claims _____ have been cancelled.
- ☐ Claims _____ are allowed.
- ☒ Claims 1-39 are rejected.
- ☐ Claims _____ are objected to.
- ☐ Claims _____ are subject to restriction or election requirement.
- ☐ This application has been filed with Informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
- ☐ Formal drawings are required in response to this Office action.
- ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
- ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
- ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
- ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received. ☐ been filed in parent application, serial no. _____; filed on _____.
- ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
- ☐ Other

EXAMINER'S ACTION

PART III

STATEMENT OF OBJECTIONS AND/OR REJECTIONS

A. Objection to the Title:

1. The title of the invention is not proper. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: FLUID PUMP WITH MAGNETICALLY LEVITATED IMPELLER.

B. Objection to the Disclosure:

2. The disclosure is objected to because of the following informalities:
 - on page 23, line 4, the word "non-magnetic" has been incorrectly typed.

C. Rejection Under 35 U.S.C. § 112:

3. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to provide an enabling disclosure. A question is raised with regard to the disclosing of a current carrying solenoid fixed to an impeller means that is free floating. It is unclear how such a

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current is induced in the solenoid without it being connected to a current source.

5. Claims 1-3, 8-24 and 30-39 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

6. Claims 1-39 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The following is a list of deficiencies that make the specified claims vague or unclear:

- In claim 1, lines 9 and 13, the use of the equivalent alternative language "or" makes the scope of the claim unclear and presents a combination which is not enabling, ie. the case when both the first and second means for generating a magnetic force are located on the same element.

- In claim 1, the last line, the use of the phrase "levitating magnetic forces" is unclear in that such phrasing incorrectly points to the forces as being levitated, not that such forces cause a levitation of the impeller, this deficiency is evident in all of the independent claims and claims 2, 5, 9, 13, 17, 21, 22, 26, 27, 31, 32, 36 and 37.

- In claim 3, line 2, the use of the phrase "substantially similar" is vague and indefinite. This deficiency is also evident in claims 7, 11, 15, 19, 24, 29, 34 and 39.

- In claim 3, line 2, the stated "density of the fluid pumped by said fluid pump" lacks antecedent basis. This deficiency is also the evident in claims 7, 11, 15, 19, 24, 29, 34 and 39.

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D. Rejection Under 35 U.S.C. § 102(b):

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(1) As Anticipated by Bramm et al. (4944748):

8. Claims 1-7 and 12-34, as understood, are rejected under 35 U.S.C. § 102(b) as being anticipated by Bramm et al. '748. Bramm et al. '748 teaches a fluid pump having a levitated impeller 62 and magnet means, housing 44 within which is fixed solenoids, electromagnets and permanent magnets, and a central frame part 54.

E. Rejection Under 35 U.S.C. § 103:

9. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of

assignment to the same person.

(1) As Unpatentable Over Bramm et al. (4944748):

10. Claims 8-11 and 35-39, as understood, are rejected under 35 U.S.C. § 103 as being unpatentable over Bramm et al. '748. Bramm et al. '748 teaches the fluid pump detailed above, but does not disclose the levitation combination including solenoid means fixed in the levitated impeller means. It would have been an obvious to one of ordinary skill in the art to replace the permanent magnet means located in the impeller of Bramm et al. '748 with solenoid means. Such a replacement would have been based on the fact that magnets, electromagnets, diamagnets and solenoids, as presented in the instant application, are considered a markush group and hence functional equivalents.

F. Other Art Cited:

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Jacobs, Belenger et al., Bramm et al. (5078741), Lester et al., Olsen et al., Isaacson et al., Rafferty et al., Young and Fouche all teach the state of relevant art with regard to pump means having levitated impellers.

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12. Any inquiry concerning this communication should be directed to Roland McAndrews at telephone number (703) 308-0861 or via Fax (703) 305-3463.

Richard A Bertsch

[Signature]

Roland McAndrews
September 16, 1993

RICHARD A. BERTSCH
SUPERVISORY PATENT EXAMINER
GROUP 340